SEQUENCE LISTING

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Shingo Sekine
Kouju Kamata

<120> HUMAN GALECTIN-9-LIKE PROTEINS AND cDNAs ENCODING THESE PROTEINS

<130> GIN-6707CPUS

<140> 09/485,951
<141> 2000-02-17

<150> 9-226468
<151> 1997-08-22

<150> PCT/JP98/03670
<151> 1998-08-19

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<170> PatentIn Ver. 2.0

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35 40 45

Phe Gln Thr Gly Phe Ser Gly Asn Asp Ile Ala Phe His Phe Asn Pro

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Arg Phe Glu Asp Gly Gly Tyr Val Val Cys Asn Thr Arg Gln Asn Gly
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Ser Trp Gly Pro Glu Glu Arg Lys Thr His Met Pro Phe Gln Lys Gly
                 85                  90                  95

Met Pro Phe Asp Leu Cys Phe Leu Val Gln Ser Ser Asp Phe Lys Val
            100                 105                 110

Met Val Asn Gly Ile Leu Phe Val Gln Tyr Phe His Arg Val Pro Phe
        115                 120                 125

His Arg Val Asp Thr Ile Ser Val Asn Gly Ser Val Gln Leu Ser Tyr
    130                 135                 140

Ile Ser Phe Gln Asn Pro Arg Thr Val Pro Val Gln Pro Ala Phe Ser
145                 150                 155                 160

Thr Val Pro Phe Ser Gln Pro Val Cys Phe Pro Pro Arg Pro Arg Gly
                165                 170                 175

Arg Arg Gln Lys Pro Pro Gly Val Trp Pro Ala Asn Pro Ala Pro Ile
            180                 185                 190

Thr Gln Thr Val Ile His Thr Val Gln Ser Ala Pro Gly Gln Met Phe
        195                 200                 205

Ser Thr Pro Ala Ile Pro Pro Met Met Tyr Pro His Pro Ala Tyr Pro
    210                 215                 220

Met Pro Phe Ile Thr Thr Ile Leu Gly Gly Leu Tyr Pro Ser Lys Ser
225                 230                 235                 240

Ile Leu Leu Ser Gly Thr Val Leu Pro Ser Ala Gln Arg Phe His Ile
                245                 250                 255

Asn Leu Cys Ser Gly Asn His Ile Ala Phe His Leu Asn Pro Arg Phe
            260                 265                 270

Asp Glu Asn Ala Val Val Arg Asn Thr Gln Ile Asp Asn Ser Trp Gly
        275                 280                 285

Ser Glu Glu Arg Ser Leu Pro Arg Lys Met Pro Phe Val Arg Gly Gln
    290                 295                 300

Ser Phe Ser Val Trp Ile Leu Cys Glu Ala His Cys Leu Lys Val Ala
305                 310                 315                 320

Val Asp Gly Gln His Leu Phe Glu Tyr Tyr His Arg Leu Arg Asn Leu
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Pro Thr Ile Asn Arg Leu Glu Val Gly Gly Asp Ile Gln Leu Thr His
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Val Gln Thr
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tgtttcccac ccaggcccag ggggcgcaga caaaaa 96

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Met Ala Phe Ser Gly Ser Gln Ala Pro Tyr
1 5 10

ctg agt cca gct gtc ccc ttt tct ggg act att caa gga ggt ctc cag 159
Leu Ser Pro Ala Val Pro Phe Ser Gly Thr Ile Gln Gly Gly Leu Gln
15 20 25

gac gga ctt cag atc act gtc aat ggg acc gtt ctc agc tcc agt gga 207
Asp Gly Leu Gln Ile Thr Val Asn Gly Thr Val Leu Ser Ser Ser Gly
30 35 40

acc agg ttt gct gtg aac ttt cag act ggc ttc agt gga aat gac att 255
Thr Arg Phe Ala Val Asn Phe Gln Thr Gly Phe Ser Gly Asn Asp Ile
45 50 55

gcc ttc cac ttc aac cct cgg ttt gaa gat gga ggg tac gtg gtg tgc 303
Ala Phe His Phe Asn Pro Arg Phe Glu Asp Gly Gly Tyr Val Val Cys
60 65 70

aac acg agg cag aac gga agc tgg ggg ccc gag gag agg aag aca cac 351
Asn Thr Arg Gln Asn Gly Ser Trp Gly Pro Glu Glu Arg Lys Thr His
75 80 85 90

atg cct ttc cag aag ggg atg ccc ttt gac ctc tgc ttc ctg gtg cag 399
Met Pro Phe Gln Lys Gly Met Pro Phe Asp Leu Cys Phe Leu Val Gln
95 100 105

agc tca gat ttc aag gtg atg gtg aac ggg atc ctc ttc gtg cag tac 447
Ser Ser Asp Phe Lys Val Met Val Asn Gly Ile Leu Phe Val Gln Tyr
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ttc cac cgc gtg ccc ttc cac cgt gtg gac acc atc tcc gtc aat ggc 495
Phe His Arg Val Pro Phe His Arg Val Asp Thr Ile Ser Val Asn Gly
125 130 135

tct gtg cag ctg tcc tac atc agc ttc cag aac ccc cgc aca gtc cct 543
Ser Val Gln Leu Ser Tyr Ile Ser Phe Gln Asn Pro Arg Thr Val Pro
140 145 150

gtt cag cct gcc ttc tcc acg gtg ccg ttc tcc cag cct gtc tgt ttc 591
Val Gln Pro Ala Phe Ser Thr Val Pro Phe Ser Gln Pro Val Cys Phe
155 160 165 170

cca ccc agg ccc agg ggg cgc aga caa aaa cct ccc ggc gtg tgg cct 639

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Pro Pro Arg Pro Arg Gly Arg Arg Gln Lys Pro Pro Gly Val Trp Pro
                175                 180                 185

gcc aac ccg gct ccc att acc cag aca gtc atc cac aca gtg cag agc   687
Ala Asn Pro Ala Pro Ile Thr Gln Thr Val Ile His Thr Val Gln Ser
            190                 195                 200

gcc cct gga cag atg ttc tct act ccc gcc atc cca cct atg atg tac   735
Ala Pro Gly Gln Met Phe Ser Thr Pro Ala Ile Pro Pro Met Met Tyr
        205                 210                 215

ccc cac ccc gcc tat ccg atg cct ttc atc acc acc att ctg gga ggg   783
Pro His Pro Ala Tyr Pro Met Pro Phe Ile Thr Thr Ile Leu Gly Gly
    220                 225                 230

ctg tac cca tcc aag tcc atc ctc ctg tca ggc act gtc ctg ccc agt   831
Leu Tyr Pro Ser Lys Ser Ile Leu Leu Ser Gly Thr Val Leu Pro Ser
235                 240                 245                 250

gct cag agg ttc cac atc aac ctg tgc tct ggg aac cac atc gcc ttc   879
Ala Gln Arg Phe His Ile Asn Leu Cys Ser Gly Asn His Ile Ala Phe
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cac ctg aac ccc cgt ttt gat gag aat gct gtg gtc cgc aac acc cag   927
His Leu Asn Pro Arg Phe Asp Glu Asn Ala Val Val Arg Asn Thr Gln
            270                 275                 280

atc gac aac tcc tgg ggg tct gag gag cga agt ctg ccc cga aaa atg   975
Ile Asp Asn Ser Trp Gly Ser Glu Glu Arg Ser Leu Pro Arg Lys Met
        285                 290                 295

ccc ttc gtc cgt ggc cag agc ttc tca gtg tgg atc ttg tgt gaa gct  1023
Pro Phe Val Arg Gly Gln Ser Phe Ser Val Trp Ile Leu Cys Glu Ala
    300                 305                 310

cac tgc ctc aag gtg gcc gtg gat ggt cag cac ctg ttt gaa tac tac  1071
His Cys Leu Lys Val Ala Val Asp Gly Gln His Leu Phe Glu Tyr Tyr
315                 320                 325                 330

cat cgc ctg agg aac ctg ccc acc atc aac aga ctg gaa gtg ggg ggc  1119
His Arg Leu Arg Asn Leu Pro Thr Ile Asn Arg Leu Glu Val Gly Gly
                335                 340                 345

gac atc cag ctg acc cat gtg cag aca taggcggctt cctggccctg        1166
Asp Ile Gln Leu Thr His Val Gln Thr
            350                 355

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tcagccgcag cagcacctgg ggctccagct gctggaatcc taccatccca ggaggcaggc 1406

acagccaggg agaggggagg agtgggcagt gaagatgaag ccccatgctc agtcccctcc 1466
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Val Asn Gly Thr Val Leu Ser Ser Ser Gly Thr Arg Phe Ala Val Asn
         35                  40                  45

Phe Gln Thr Gly Phe Ser Gly Asn Asp Ile Ala Phe His Phe Asn Pro
     50                  55                  60

Arg Phe Glu Asp Gly Gly Tyr Val Val Cys Asn Thr Arg Gln Asn Gly
 65                  70                  75                  80

Ser Trp Gly Pro Glu Glu Arg Lys Thr His Met Pro Phe Gln Lys Gly
                 85                  90                  95

Met Pro Phe Asp Leu Cys Phe Leu Val Gln Ser Ser Asp Phe Lys Val
            100                 105                 110

Met Val Asn Gly Ile Leu Phe Val Gln Tyr Phe His Arg Val Pro Phe
        115                 120                 125

His Arg Val Asp Thr Ile Ser Val Asn Gly Ser Val Gln Leu Ser Tyr
    130                 135                 140

Ile Ser Phe Gln Asn Pro Arg Thr Val Pro Val Gln Pro Ala Phe Ser
145                 150                 155                 160

Thr Val Pro Phe Ser Gln Pro Val Cys Phe Pro Pro Arg Pro Arg Gly
                165                 170                 175

Arg Arg Gln Lys Pro Pro Gly Val Trp Pro Ala Asn Pro Ala Pro Ile
            180                 185                 190

Thr Gln Thr Val Ile His Thr Val Gln Ser Ala Pro Gly Gln Met Phe
        195                 200                 205

Ser Thr Pro Ala Ile Pro Pro Met Met Tyr Pro His Pro Ala Tyr Pro
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    210                 215                 220

Met Pro Phe Ile Thr Thr Ile Leu Gly Gly Leu Tyr Pro Ser Lys Ser
225                 230                 235                 240

Ile Leu Leu Ser Gly Thr Val Leu Pro Ser Ala Gln Arg Phe His Ile
                245                 250                 255

Asn Leu Cys Ser Gly Asn His Ile Ala Phe His Leu Asn Pro Arg Phe
            260                 265                 270

Asp Glu Asn Ala Val Val Arg Asn Thr Gln Ile Asp Asn Ser Trp Gly
        275                 280                 285

Ser Glu Glu Arg Ser Leu Pro Arg Lys Met Pro Phe Val Arg Gly Gln
    290                 295                 300

Ser Phe Ser Val Trp Ile Leu Cys Glu Ala His Cys Leu Lys Val Ala
305                 310                 315                 320

Val Asp Gly Gln His Leu Phe Glu Tyr Tyr His Arg Leu Arg Asn Leu
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Pro Thr Ile Asn Arg Leu Glu Val Gly Gly Asp Ile Gln Leu Thr His
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Val Gln Thr
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             20                  25                  30

Val Asn Gly Thr Val Leu Ser Ser Ser Gly Thr Arg Phe Ala Val Asn
         35                  40                  45

Phe Gln Thr Gly Phe Ser Gly Asn Asp Ile Ala Phe His Phe Asn Pro
     50                  55                  60

Arg Phe Glu Asp Gly Gly Tyr Val Val Cys Asn Thr Arg Gln Asn Gly
 65                  70                  75                  80

Ser Trp Gly Pro Glu Glu Arg Arg Thr His Met Pro Phe Gln Lys Met
                 85                  90                  95

Pro Phe Asp Leu Cys Phe Leu Val Gln Ser Ser Asp Phe Lys Val Met
            100                 105                 110
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Val Asn Gly Ile Leu Phe Val Gln Tyr Phe His Arg Val Pro Phe His
        115                 120                 125

Arg Val Asp Thr Ile Phe Val Asn Gly Ser Val Gln Leu Ser Tyr Ile
    130                 135                 140

Ser Phe Gln Pro Pro Gly Val Trp Pro Ala Asn Pro Ala Pro Ile Thr
145                 150                 155                 160

Gln Thr Val Ile His Thr Val Gln Ser Ala Pro Gly Gln Met Phe Ser
                165                 170                 175

Thr Pro Ala Ile Pro Pro Met Met Tyr Pro His Pro Ala Tyr Pro Met
            180                 185                 190

Pro Phe Ile Thr Thr Ile Leu Gly Gly Leu Tyr Pro Ser Lys Ser Ile
        195                 200                 205

Leu Leu Ser Gly Thr Val Leu Pro Ser Ala Gln Arg Phe His Ile Asn
    210                 215                 220

Leu Cys Ser Gly Asn His Ile Ala Phe His Leu Asn Leu Arg Phe Asp
225                 230                 235                 240

Glu Asn Ala Val Val Arg Asn Thr Gln Ile Asp Asn Ser Trp Gly Ser
                245                 250                 255

Glu Glu Arg Ser Leu Pro Arg Lys Met Pro Phe Val Arg Gly Gln Ser
            260                 265                 270

Phe Ser Val Trp Ile Leu Cys Gly Ala His Cys Leu Lys Val Ala Val
        275                 280                 285

Asp Gly Gln His Leu Phe Glu Tyr Tyr His Arg Leu Arg Asn Leu Pro
    290                 295                 300

Thr Ile Asn Arg Leu Glu Val Gly Gly Asp Ile Gln Leu Thr His Val
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Gln Thr
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Leu Gln Gly Thr Thr Lys Ser Phe Ala Gln Arg Phe Val Val Asn Phe
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Gln Asn Ser Phe Asn Gly Asn Asp Ile Ala Phe His Phe Asn Pro Arg
     50                  55                  60

Phe Glu Asp Gly Gly Tyr Val Val Cys Asn Thr Arg Gln Asn Gly Ser
 65                  70                  75                  80

Trp Gly Pro Glu Glu Arg Lys Thr His Met Pro Phe Gln Lys Gly Met
                 85                  90                  95

Pro Phe Asp Leu Cys Phe Leu Val Gln Ser Ser Asp Phe Lys Val Met
            100                 105                 110

Val Asn Gly Ile Leu Phe Val Gln Tyr Gln His Arg Val Pro Tyr His
        115                 120                 125

Leu Val Asp Thr Ile Ala Val Ser Gly Cys Leu Lys Leu Ser Phe Ile
    130                 135                 140

Thr Phe Gln Asn Ser Ala Ala Pro Val Gln His Val Phe Ser Thr Leu
145                 150                 155                 160

Gln Phe Ser Gln Pro Val Gln Phe Pro Arg Thr Pro Lys Gly Arg Lys
                165                 170                 175

Gln Lys Thr Gln Asn Phe Arg Pro Ala His Gln Ala Pro Met Ala Gln
            180                 185                 190

Thr Thr Ile His Met Val His Ser Thr Pro Gly Gln Met Phe Ser Thr
        195                 200                 205

Pro Gly Ile Pro Pro Val Val Tyr Pro Thr Pro Ala Tyr Thr Ile Pro
    210                 215                 220

Phe Tyr Thr Pro Ile Pro Asn Gly Leu Tyr Pro Ser Lys Ser Ile Met
225                 230                 235                 240

Ile Ser Gly Asn Val Leu Pro Asp Ala Thr Arg Phe His Ile Asn Leu
                245                 250                 255

Arg Cys Gly Gly Asp Ile Ala Phe His Leu Asn Pro Arg Phe Asn Glu
            260                 265                 270

Asn Ala Val Val Arg Asn Thr Gln Ile Asn Asn Ser Trp Gly Gln Glu
        275                 280                 285

Glu Arg Ser Leu Leu Gly Arg Met Pro Phe Ser Arg Gly Gln Ser Phe
    290                 295                 300

Ser Val Trp Ile Ile Cys Glu Gly His Cys Phe Lys Val Ala Val Asn
305                 310                 315                 320

Gly Gln His Met Cys Glu Tyr Tyr His Arg Leu Lys Asn Leu Gln Asp
                325                 330                 335

Ile Asn Thr Leu Glu Val Ala Gly Asp Ile Gln Leu Thr His Val Gln
            340                 345                 350
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Thr

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<210> 11
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<212> DNA
<213> Artificial Sequence

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<223> Description of Artificial Sequence:primer

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